National Transportation Safety Board
Aviation Accident Final Report

Location:	NEW ORLEANS, LA	**Accident Number:**	FTW94FA279
Date & Time:	08/26/1994, 0235 CDT	**Registration:**	XASKO
Aircraft:	DASSAULT DA 200	**Aircraft Damage:**	Substantial
Defining Event:		**Injuries:**	7 None
Flight Conducted Under:	Part 91: General Aviation - Executive/Corporate		

Analysis

DURING THE TAKEOFF ROLL, 1 SECOND AFTER CALLING OUT VR, AS THE AIRPLANE WAS ACCELERATING THROUGH 125 KTS, THE FIRST OFFICER NOTICED A FLUCTUATION ON THE N1 GAUGE AND A CAUTION LIGHT ON THE RIGHT ENGINE. HE IMMEDIATELY NOTIFIED THE CAPTAIN. THE CAPTAIN INITIATED AN ABORT 5.77 SECONDS LATER. THE AIRPLANE ACCELERATED THROUGH 136 KTS BEFORE DECELERATION BEGAN. V1 WAS 124 KNOTS. DURING THE ABORT THE AIRPLANE RAN OFF THE END OF THE RUNWAY INTO A LAKE. EVIDENCE INDICATED THAT THE CREW DID NOT APPLY MAXIMUM BRAKING TECHNIQUES DURING THE REJECTED TAKEOFF. THE CAUSE OF THE FLUCTUATING GAUGE READING WAS NOT DETERMINED. THE AIRPLANE WAS NOT EQUIPPED WITH THRUST REVERSERS.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: THE CAPTAIN'S DECISION TO ABORT THE TAKEOFF AFTER ACCELERATING PAST V1. A FACTOR WAS THE FLUCTUATING ENGINE INSTRUMENT FOR UNDETERMINED REASONS.

Findings

Occurrence #1: MISCELLANEOUS/OTHER
Phase of Operation: TAKEOFF - ROLL/RUN

Findings
1. (F) MISCELLANEOUS,ENGINE - UNDETERMINED

Occurrence #2: OVERRUN
Phase of Operation: TAKEOFF - ABORTED

Findings
2. (C) ABORT ABOVE V1 - PERFORMED - PILOT IN COMMAND

Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: TAKEOFF - ABORTED

Findings
3. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF THE FLIGHT

On August 26, 1994, at 0235 central daylight time, a Dassault Aviation DA 200, Mexican registry XA-SKO, was substantially damaged during an aborted takeoff at Lakefront Airport, New Orleans, Louisiana. The airplane, owned and operated by Aerocorp, S. A., of Mexico City, was departing on a corporate/executive flight. There was an IFR flight plan on file and visual meteorological conditions prevailed. Neither the two commercial pilots nor the five passengers were injured.

The airplane was en route from Montreal, Canada, to Acapulco, Mexico, with a planned refueling stop in New Orleans. According to the crew, the flight was departing on runway 36L when the right engine lost power as the airplane was accelerating through 105 knots, shortly after the captain had transitioned from nose gear steering to rudder control. The captain, the pilot flying, initiated the abort. He said that there was an elapsed time of between 3 to 5 seconds from the time of the power loss to the time of the abort. The first officer stated that all of the caution lights on the right engine illuminated at the time of the power loss and that he noticed that the right engine N1 gauge started to fluctuate down from 96% to between 80 and 85%. Both crewmembers stated that during the initial portion of the abort, they thought they would have enough runway to stop and that the braking was adequate. They also said the engines were pulled back to idle and maximum braking and full aft yoke were applied.

The airplane overran the end of the runway, traversed about 60 feet of grass, and went over a sea wall into Lake Ponchartrain, coming to rest 200 feet from shore. The crew estimated that their speed was between 30 and 50 knots when they went over the sea wall. All of the occupants exited the airplane through the right overwing exit. At the time of the accident, the airplane was configured with takeoff flaps (5 degrees) and slats.

The transcription of the cockpit voice recorder (CVR) was begun at 0216:46, and the first conversation heard is that of the first officer as he is calling out the takeoff speeds to the captain. He stated "one twenty four, one twenty five, one twenty four." New Orleans Departure Control issued the clearance to the crew at 0227:32, and at 0231:53, the copilot informed the captain that the pre-takeoff checklist was complete.

At 0232:29, sounds of engine acceleration were recorded on the tape and at 0232:52, the first officer said "to the engine." This was followed by the first officer calling V1 and VR at 0232:55 and 0232:58, respectively. At 0232:59, the first officer stated "the light indicator of (two unintelligable words) came on" and the captain said " eh?" at 0233:00. During subsequent interviews, neither pilot could recall which lights had illuminated. After the captain's questioning comment, the first officer stated "no no no no don't don't we're already here." This was followed by sounds on the cockpit area microphone of the airplane beginning to decelerate on the runway. The only other sound heard prior to the end of the recording was the sound of the pilot's heavy breathing.

WITNESSES

Written statements were requested from all of the passengers. Three were returned. In addition, a written statement was obtained from the fixed base operator (FBO) employee who refueled the airplane and observed the attempted takeoff. The FBO line person stated that he heard a crackling sound during the takeoff roll that he was not familiar with. He stated that the

airplane never lifted off and he observed the splash in the lake. He immediately notified the local aircraft rescue and firefighting units and the FAA.

PERSONNEL INFORMATION

Captain Emilio J. Luebbert held a Mexican ATP certificate with airplane, multi-engine land and instrument privileges. He also had type ratings in the accident airplane and Cessna 500/550 airplanes. His last certificate revalidation was performed on March 19, 1994, and he had attended DA 200 refresher training at Simuflight, Inc., on August 5, 1994.

First Officer Jose S. Feria held a Mexican commercial certificate with airplane, multi-engine and instrument privileges. He held a captain's type rating in Beech 100 airplanes and a copilot's rating for the DA 200. His last certificate revalidation was performed on December 16, 1993, and he also completed DA 200 refresher training at Simuflight on August 5, 1994.

AIRCRAFT INFORMATION

The airplane was registered in Mexico and had been issued a transport category airworthiness certificate by the Director General of Civil Aviation. A review of the airplane's maintenance records revealed that it was being maintained on a manufacturer's approved continuous airworthiness program and had last been inspected on June 13, 1994. It had accumulated a total of 42 hours flight time following the last inspection which included 150/300/600 hour inspections on the left engine and a 150 hour inspection on the right engine.

In addition to extensive interior work, maintenance had also been performed on the airframe prior to its departure from Montreal. Among other discrepancies, there was a write up that the right fuel gauge was fluctuating. The clearing entry stated that the probe was replaced and that the final adjustment would be made by the operator. There was also a write up stating that all four brakes were leaking. This discrepancy was cleared by an entry that stated "All brakes leaking, removed and repaired, bearings cleaned and repacked." No other outstanding discrepancies were noted in the records.

The airplane was within the prescribed limits for weight and center of gravity at takeoff and had been serviced with 1,046 gallons of Jet A prior to departure. The takeoff weight was estimated at 31,704 pounds versus a maximum certified takeoff gross weight of 32,000 pounds. Fuel samples taken from the refueling truck following the accident met specifications and the filter inspections had been performed.

According to the airplane's calculated gross weight, flight manual performance data, and the atmospheric conditions that existed at the time, an accelerate/stop distance of 5,500 feet was required. The crew had used a slightly lower gross weight and an outside air temperature of 18 degrees Centigrade vs. the actual measured temperature of 27 degrees Centigrade that was being reported and calculated a runway requirement of 5,200 feet. The digital flight data recorder (DFDR) data indicated the airplane's rate of acceleration began to decrease as the airplane passed through 125 knots indicated airspeed (IAS), but, continued to accelerate to 136 knots IAS and a derived ground speed of 132.68 knots before deceleration began. The DFDR recording stopped at 69 knots IAS and a derived ground speed of 65.45 knots ground speed. The DFDR derived ground run distance covered by the airplane during the takeoff run, abort, over run, and travel into the lake was 6,373.8 feet; this was 72 feet shorter than the distances measured on the ground during the investigation.

The airplane was not equipped with thrust reversers. The FAA approved flight manual procedure for maximum braking energy was to push the yoke forward in order to place weight on the nose gear. According to the engine manufacturer, the airplane is equipped with a squat switch on the nose gear that senses whether to command the engines to either flight or ground idle power. With the switch in the open position, the engines would remain in flight idle and produce 750 pounds of residual thrust. If full weight is put on the nose gear, the switch would be depressed and the engines would cut back to 250 pounds of ground idle thrust. In addition, the engine manufacturer reported that there have been numerous reports of fluctuating N1 readings on the ATF-3 engines on the Dassault DA 200 during cross winds. Test cell technicians at the factory reported that during test runs, N1 is "impossible" to set in the test cell when it is open and a cross wind exists. During the accident, the airplane was departing on runway 36L and the weather observation reported the winds to be out of 110 degrees at 5 knots.

AERODROME INFORMATION

New Orleans Lakefront Airport is a reliever/general aviation airport served by runways 36L/18R, 09/27, and 36R/18L. Runway 36L/18R is 6,879 feet long by 150 feet wide. Runway 36L has a 818 foot displaced threshold at the head and 240 feet of asphalt over run at the departure end, followed by 60 feet of sod which ends at a flush seawall and the approach lighting pier for runway 18R. According to the crew and the FBO witness, the crew taxied out of the transient area via taxiway Golf and therefore did not use the displaced threshold at the head of 36L.

FLIGHT RECORDERS

Cockpit Voice Recorder: The airplane was equipped with a Fairchild A-100A CVR, serial number 51649, which was shipped to the Safety Board's laboratory submerged in distilled water in a water tight container. Laboratory testing revealed that the underwater locator beacon was operating within specification. Salt water damage was evident on the recorder components; however, the recording medium was not damaged. The recording started at 0208:45 and ended at 0233:17, when electrical power was removed from the unit. A transcript was made of the recording starting at 0216:46.

Digital Flight Data Recorder: The airplane was equipped with a Loral Fairchild F800 DFDR, serial number 3177. It was recovered with the CVR and shipped to the Safety Board's lab in the same manner. There was no exterior damage other than salt water damage. The recording medium was found adhered to the write and read heads and had to be peeled off. This procedure resulted in the loss of minimum data at the time of impact with the water.

WRECKAGE AND IMPACT INFORMATION

The airplane came to rest in the lake 200 feet past the seawall with the right wing pushed through the pilings of the approach light pier. According to rescue personnel, the airplane floated for about one hour after the accident and drifted into the pilings. Examination of the runway revealed brake marks that were attributable to the accident airplane. The first visible signs of braking were found 1,054 feet from the end of the runway These consisted of both tires from the left and right main landing gear. Once the airplane entered the grass overrun area, the nose gear tire imprints became visible. The brake mark deposits on the runway were light, continuous, and did not evidence any breaks or gaps. The airframe manufacturer's representative stated that he did not believe that the braking mark deposits were indicative of full braking.

Examination of the airplane following recovery revealed that the gear was down and locked, the trailing edge flaps were deployed 5 degrees and the leading edge slats were extended. Examination of the main landing gear revealed damage to the gear doors consistent with water impact. The brakes exhibited no evidence of overheating or excessive wear. The tire pressures were found to be within the manufacturer's specifications. None of the tires were blown and all exhibited adequate tread. The middle slats on both wings were separated and not recovered. Examination of the wings revealed that the slats had been driven rearward and the slat actuator attachments had punctured the wing forward spars. Both wing fences were bent inward toward the fuselage. Only minor damage due to water impact and recovery was exhibited on the lower fuselage.

MEDICAL AND PATHOLOGICAL INFORMATION

The captain was given a breathalizer test by the New Orleans Levee Board Police shortly after his recovery from the water. The results were negative. Both the captain and the first officer provided urine samples for post-accident testing. As the crewmembers had been in the presence of the passengers throughout the day and there was no evidence to indicate impairment, the samples were destroyed and no toxicology testing was performed.

SURVIVAL ASPECTS

The airplane floated following entry into the water. All of the passengers donned their personal floatation devices with the assistance of the first officer. All of the occupants subsequently exited the airplane through the right overwing exit and were found standing on the wing when the aircraft rescue and firefighting (ARFF) personnel arrived about 5 minutes later.

TESTS AND RESEARCH

Engine Tear Down and Examination: The engines were removed from the airframe and shipped to the facilities of Allied Signal Engines where they were diassembled and examined under the auspices of the Safety Board and the cognizance of the FAA during the period September 26 through 28. During the initial functional testing of the right engine N1 monopole a shorted condition was identified. Subsequent testing under various environments conditions did not duplicate the condition. In addition, during functional testing of the engine wiring harness, the N1 monopole connector cannon plug failed the pin retention test due to looseness. Due to the harness having been cut during recovery and engine removal it could not be determined if this condition contributed to the N1 fluctuation the pilots stated they observed. No evidence of pre-impact failure or malfunction was found on either engine and the observed damage was consistent with engine rotation and operation at impact. Due to water immersion damage and corrosion, the engine instruments were not tested and the cause of the fluctuating N1 gauge was not determined.

ADDITIONAL INFORMATION

Wreckage Release: The wreckage and all of the retained maintenance records were released to the operator's U.S. representative on February 27, 1995.

Pilot Information

Certificate:	Airline Transport; Foreign	**Age:**	47, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Sea	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	**Last FAA Medical Exam:**	03/11/1994
Occupational Pilot:		**Last Flight Review or Equivalent:**	
Flight Time:	5000 hours (Total, all aircraft), 1000 hours (Total, this make and model), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	DASSAULT	**Registration:**	XASKO
Model/Series:	DA 200 DA 200	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Transport	**Serial Number:**	505
Landing Gear Type:	Retractable - Tricycle	**Seats:**	11
Date/Type of Last Inspection:	06/13/1994, Continuous Airworthiness	**Certified Max Gross Wt.:**	32000 lbs
Time Since Last Inspection:	42 Hours	**Engines:**	2 Turbo Fan
Airframe Total Time:	3117 Hours	**Engine Manufacturer:**	ALLIED SIGNAL
ELT:	Installed, not activated	**Engine Model/Series:**	ATF3-6A-4C
Registered Owner:	AEROCORP, S.A. DE C.V.	**Rated Power:**	5200 lbs
Operator:	AEROCORP, S.A. DE C.V.	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	**Condition of Light:**	Night/Dark
Observation Facility, Elevation:	NEW, 9 ft msl	**Distance from Accident Site:**	0 Nautical Miles
Observation Time:	0152 CDT	**Direction from Accident Site:**	0°
Lowest Cloud Condition:	Clear / 0 ft agl	**Visibility**	10 Miles
Lowest Ceiling:	None / 0 ft agl	**Visibility (RVR):**	0 ft
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	110°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	27°C / 23°C
Precipitation and Obscuration:			
Departure Point:	(NEW)	**Type of Flight Plan Filed:**	IFR
Destination:	ACAPULCO, MX (MMAA)	**Type of Clearance:**	IFR
Departure Time:	0235 CDT	**Type of Airspace:**	Class D

Airport Information

Airport:	LAKEFRONT (NEW)	**Runway Surface Type:**	Asphalt
Airport Elevation:	9 ft	**Runway Surface Condition:**	Dry
Runway Used:	36L	**IFR Approach:**	None
Runway Length/Width:	6879 ft / 150 ft	**VFR Approach/Landing:**	None

Wreckage and Impact Information

Crew Injuries:	2 None	**Aircraft Damage:**	Substantial
Passenger Injuries:	5 None	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	7 None	**Latitude, Longitude:**	

Administrative Information

Investigator In Charge (IIC):	WARREN V WANDEL,	**Report Date:**	04/25/1995
Additional Participating Persons:	ANTHONY MICHELLI; BATON ROUGE, LA		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		